

# Effective Questioning

Definition Effective questioning challenges students and teachers to use good questions as a way to open conversations and further intellectual inquiry. Effective questioning (*by the teacher and by students*) deepens classroom conversations and the level of discourse students apply to their work. Teachers use this strategy to create opportunities for students to investigate and analyze their thinking as well as the thinking of their peers and the authors that they read in each of their classes.

## Advantages

- Helps students practice thinking out loud
- Provides a way for students to engage with content and each other
- Empowers students to develop college-level discussions skills
- Improves listening and speaking skills
- Promotes students-to-student interaction

## Actually, it ...

- Encourages critical thinking skills
- Can be used across content areas and grade levels
- Affects how students learn
- Creates opportunities to connect learning with real life experiences and prior knowledge
- Can create a culture of respect for all perspectives
- Helps students and teachers become active listeners

Bloom's Taxonomy – Use key words to assist with teacher and student development of questions.

Level	Key Words	Examples
<b>Knowledge</b>	remembers, defines, describes, identifies, knows, labels, lists, matches, names, outlines, recalls, recognizes, reproduces, selects, states, relates	Recite a policy. Quote prices from memory to a customer. Knows the safety rules.
<b>Comprehension</b>	describes, compares, contrasts, comprehends, converts, defends, distinguishes, estimates, explains, extends, generalizes, gives examples, infers, interprets, paraphrases, predicts, rewrites, summarizes, translates, recognizes, reports	Rewrites the principles of test writing. Explain in one's own words the steps for performing a complex task. Translates an equation into a computer spreadsheet.
<b>Application</b>	classifies, uses, chooses, solves, applies, changes, computes, constructs, demonstrates, discovers, manipulates, modifies, operates, predicts, prepares, produces, relates, shows, solves, uses	Use a manual to calculate an employee's vacation time. Apply laws of statistics to evaluate the reliability of a written test.
<b>Analysis</b>	identify causes, draw conclusions, determine evidence, analyzes, breaks down, compares, contrasts, diagrams, deconstructs, differentiates, discriminates, distinguishes, identifies, illustrates, infers, outlines, relates, selects, separates, solves	Troubleshoot a piece of equipment by using logical deduction. Recognize logical fallacies in reasoning. Gathers information from a department and selects the required tasks for training.
<b>Synthesis</b>	predicts, produces, designs, develops, categorizes, combines, compiles, composes, creates, devises, designs, explains, generates, modifies, organizes, plans, rearranges, reconstructs, relates, reorganizes, revises, rewrites, summarizes, tells, writes, plans, writes	Write a company operations or process manual. Design a machine to perform a specific task. Integrates training from several sources to solve a problem. Revises and process to improve the outcome.
<b>Evaluation</b>	judges, argues, decides, assesses, appraises, compares, concludes, contrasts, criticizes, critiques, defends, describes, discriminates, evaluates, explains, interprets, justifies, relates, summarizes, supports, selects, chooses	Select the most effective solution. Hire the most qualified candidate. Explain and justify a new budget.

## Wait-Time Facts and Findings

### **Researchers on questioning strategies speak of two kinds of wait-time:**

- "wait-time 1" refers to the amount of time the teacher allows to elapse after he/she has posed a question and before a student begins to speak
- "wait-time 2" refers to the amount of time a teacher waits after a student has stopped speaking before saying anything.
- The research has focused more on wait-time 1 than wait-time 2, but the following findings apply to both.

### **Findings include:**

- The average wait-time teachers allow after posing a question is one second or less.
- Students whom teachers perceive as slow or poor learners are given less wait-time than those teachers view as more capable.
- For lower cognitive questions, a *wait-time of three seconds is most positively* related to achievement, with less success resulting from shorter or longer wait-times.
- There seems to be no wait-time threshold for higher cognitive questions; students seem to become more and more engaged and perform better and better the longer the teacher is willing to wait.

### **Increasing *wait-time beyond three seconds is positively related to the following student outcomes:***

- Improvements in the student achievement
- Improvements in student retention, as measured by delayed tests
- Increases in the number of higher cognitive responses generated by students
- Increases in the length of student responses
- Increases in the number of unsolicited responses
- Decreases in students' failure to respond
- Increases in the amount and quality of evidence students offer to support their inferences
- Increases in contributions by students who do not participate much when wait-time is under three seconds
- Expansion of the variety of responses offered by students
- Decreases in student interruptions
- Increases in student-student interactions
- Increases in the number of questions posed by students

### **Increasing *wait-time beyond three seconds is positively related to the following teacher outcomes:***

- Increases in flexibility of teacher responses, with teachers listening more and engaging students in more discussions
- Increases in teacher expectations regarding students usually thought of as slow
- Expansion of the variety of questions asked by teachers
- Increases in the number of higher cognitive questions asked by teachers

### Follow-up Questions: Probing can be used to help students:

- **Clarify:** to make something clearer by explaining it in greater detail; paraphrase, make more accurate
- **Redirect:** to focus attention on another aspect of the phenomena
- **Summarize:** to state the main ideas; synthesize to a bigger idea
- **Extend:** to apply to a new situation
- **Reflect:** to think about; active persistent and careful consideration